

Implementing HIV Rapid Testing in the Emergency Department: A Best Practice

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Acknowledgments

- HIV Prevention Community Planning Group
- MATEC
- Indiana University School of Medicine
- Wishard Hospital Rapid HIV team
- Rapid HIV planning task force
- My wife and daughter



A Brief Overview

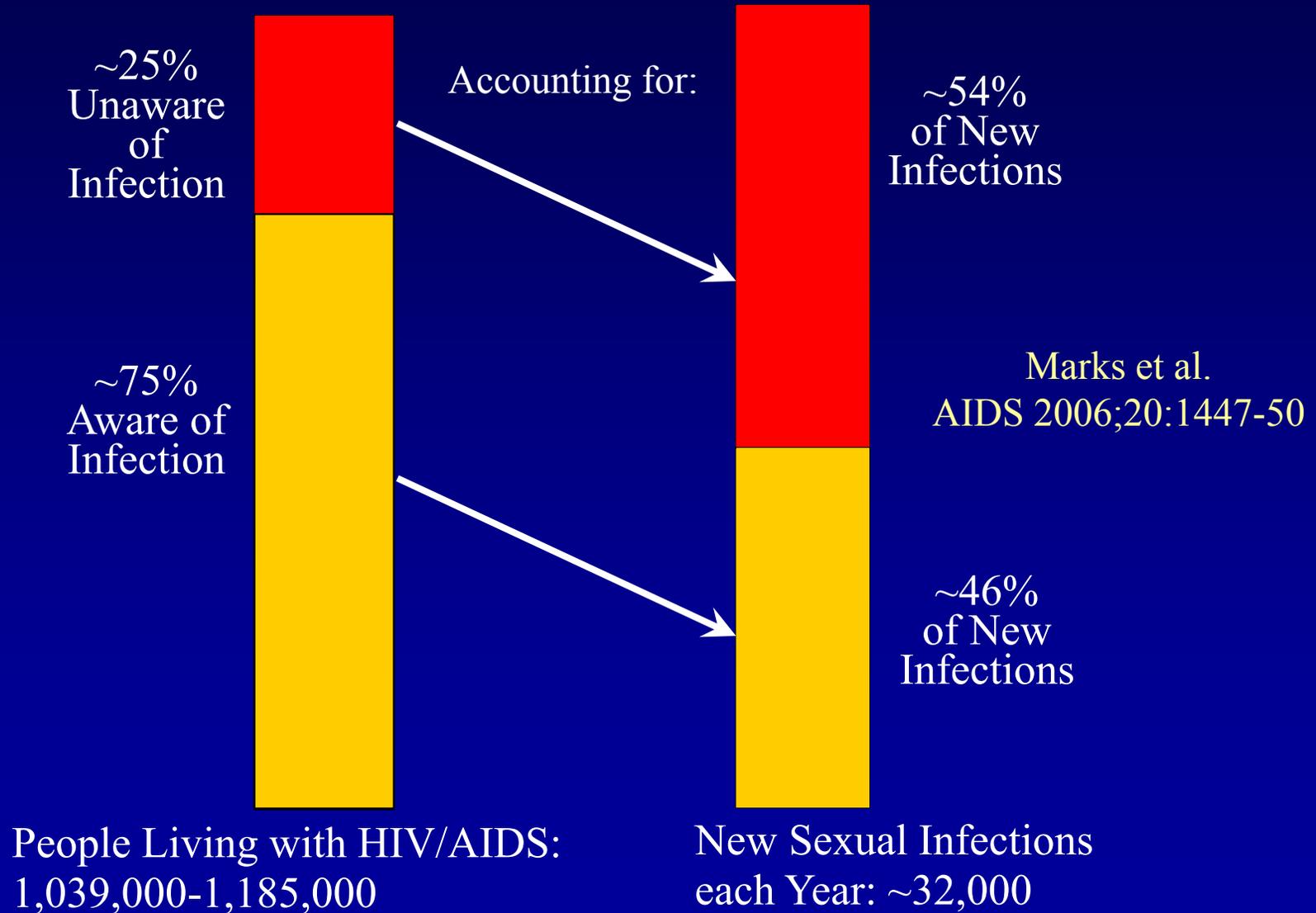
- What is the issue?
- History of HIV testing in EDs
- Strategies for performing HIV testing in EDs
- Wishard's testing success?
- A 'How To' guide for future hospitals.

Why are we all here?

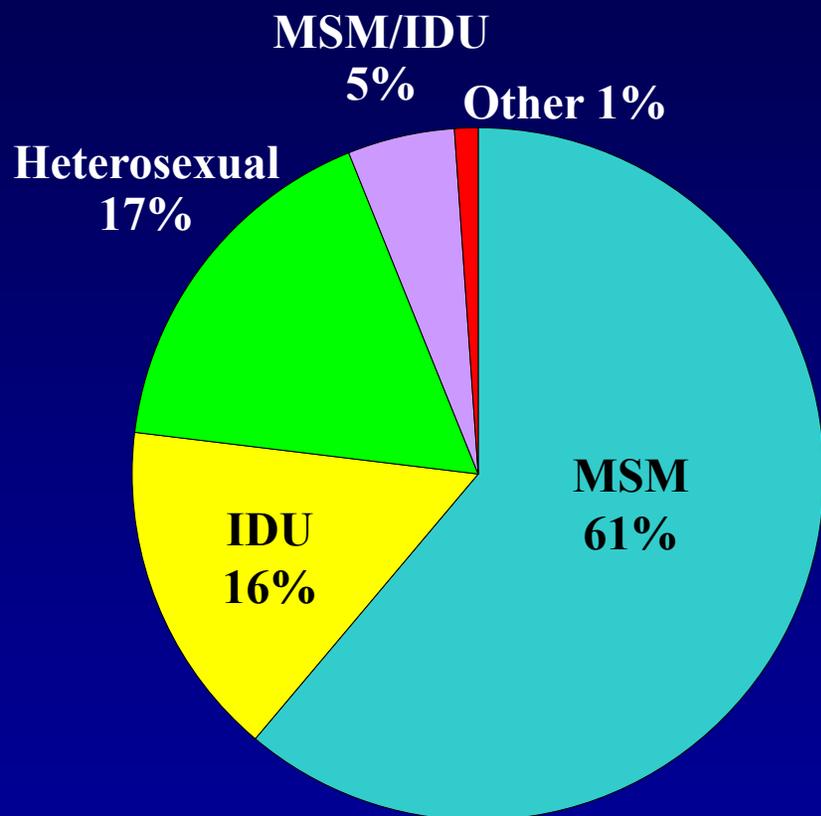
Awareness of HIV Status among Persons with HIV, United States

Number HIV infected	1,039,000 – 1,185,000
Number unaware of their HIV infection	252,000 - 312,000 (24%-27%)
Estimated new infections annually	40,000

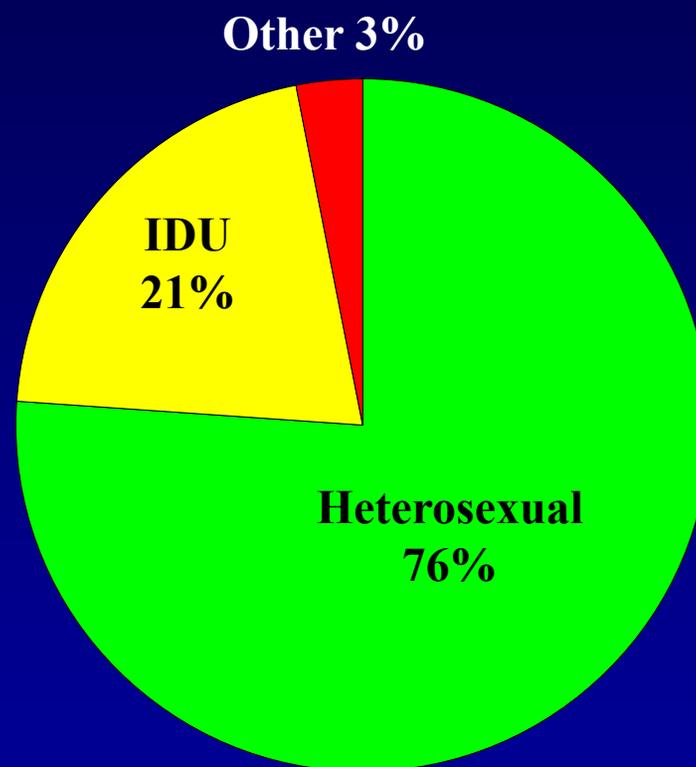
Awareness of Serostatus Among People with HIV and Estimates of Transmission



HIV/AIDS Diagnoses among Adults and Adolescents, by Transmission Category — 33 States, 2001–2004



Males
(n ≈ 112,000)



Females
(n ≈ 45,000)

Earlier Diagnosis of HIV Infection

Benefits both Patient and Public

- Benefits for the Patient:
 - Reduction of high-risk behavior
 - Timely linkage to care
 - Improved morbidity and mortality due to HAART
- Benefits for the Public:
 - Earlier diagnosis allows for earlier treatment, which decreases HIV viral load, therefore decreasing forward transmission
 - Reduction in length of inpatient hospitalization

Health Disparity?

- The incidence has increased most dramatically over the past several years among racial and ethnic minorities, heterosexual men, women, and injection drug users
- Approximately 250,000 remain undiagnosed, largely due to HIV's long asymptomatic period and because many of those at risk have never been tested



MMWR™

Morbidity and Mortality Weekly Report

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**Revised Recommendations for HIV Testing
of Adults, Adolescents, and Pregnant Women
in Health-Care Settings**

INSIDE: Continuing Education Examination

**DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION**

Summary of the Recommendations

- Routine screening in all healthcare settings with undiagnosed prevalence $\geq 0.1\%$ for patients aged 13 to 64 years
- Repeat testing should be performed at least annually for those determined to be high-risk
- Screening should be voluntary using opt-out consent
- Consent should be integrated into general consent
- Pretest information replaces counseling
- No posttest counseling for those who test negative

Is Rapid Testing in the ED Feasible?

- Pros
 - High-risk populations use the ED as their sole source for medical care
 - Seroprevalence is relatively high and this affords an outstanding opportunity to determine risk and to test for HIV
 - Rapid tests are quick and accurate
 - Growing experience and body of literature demonstrating clinical and cost effectiveness

Is Rapid Testing in the ED Feasible?

- Cons
 - Perceptions regarding ED-based prevention efforts vary
 - Program implementation will vary depending on resources and site
 - Limited comparative data
 - Funding

Why test in Emergency Departments?

The funnel analogy!

HIV and the Emergency Department

- Unselected seroprevalence ranges from approximately 1% to 4%
- 30% of these are undiagnosed
- HIV infection is increasing in non-traditional risk groups, the same groups that commonly use the ED for primary care
- The ED serves as an important focal point for HIV identification and linkage

HIV and the Emergency Department

- A significant proportion of patients who visit the ED are socioeconomically disadvantaged and do not have regular sources of healthcare
- These same patients are typically at increased risk for acquiring or harboring HIV infection
- The ED often serves as their only source for healthcare and thus their only opportunity for targeting

HIV Testing in the ED: Barriers and Strategies

- Barriers:
 - Lack of space
 - Perceived lack skills or staff
 - Concerns regarding costs of testing
 - Low adherence to specific strategies
- Strategies:
 - Referral from the ED for outpatient HIV CTR
 - Standard HIV testing in the ED with outpatient referral to obtain test results and posttest counseling
 - Rapid HIV testing

Do Emergency Departments Test?

- Academic EDs
 - 1996: 36% tested based on clinical suspicion
 - 2007: 57% offered some form of rapid HIV testing*
 - 2007: 62% offered some form of HIV testing*
- Non-Academic EDs
 - 2007: 48% offered some form of HIV testing*

...yet, how many EDs have HIV SCREENING protocols???

**preliminary results*

Referral for Outpatient HIV CTR #1

- Prospective cohort study performed at Harbor-UCLA Medical Center in Los Angeles County
- Patients identified in the ED were referred for outpatient HIV CTR
- 494 referrals were made over a 2-year time period.
- 56 (11%) arrived for HIV CTR and completed testing
- Of these, 4 (7%) tested positive for HIV

Coil C et al. Evaluation of an emergency department referral system for outpatient HIV testing. *JAIDS* 2004;35:52-55.

Referral for Outpatient HIV CTR

#2

- Three-phase quasi-experiment using financial incentives to improve compliance with this outpatient HIV CTR referral system
- Phase I and III: 20 (8%) of 252 completed testing
- **Phase II: 27 (23%) of 120 completed testing**
- 0 (95% CI: 0 – 8%) tested positive for HIV

Haukoos J et al. The effect of a financial incentive on outpatient HIV testing referrals from the emergency department. *Acad Emerg Med* 2005;12:617-621.

HIV Testing then Referring #1

- 200 IVDU patients approached
- 168 (84%) consented to standard HIV testing in the ED with follow-up 10-14 days later for test results and post-test counseling
- 104 (62%) returned for follow-up*
- 17 (16%) tested positive for HIV
- 6 (35%) of these followed-up in the HIV clinic for medical care

**incentive offered*

Kelen G et al. Feasibility of an emergency department-based, risk-targeted voluntary HIV screening program. *Ann Emerg Med* 1996;27:687-692.

HIV Testing then Referring #2

- Non-clinical health educators
- Targeted “high-risk” or “symptomatic” patients during convenience/high-volume hours
- 897 high-risk patients targeted
- 494 (55%) consented for HIV CTR
- 15 (3%) tested positive for HIV infection
- 40% return rate (45% versus 33% when an incentive was used)

Rapid HIV test

Does it work?

The Rapid HIV Test

- **OraQuick[®] Advance Rapid HIV-1/2 Antibody Test** (OraSure Technologies) was FDA-approved in 2002
- **Uni-Gold Recombigen[®] HIV Test** (Trinity Biotech) was FDA-approved in 2003
- **Reveal[®] G3 Rapid HIV-1 Antibody Test** (MedMira Laboratories Inc.) was FDA-approved in 2003
- **Multispot HIV-1/HIV-2 Rapid Test** (Bio-Rad Laboratories) was FDA-approved in 2004
- **Clearview[®] HIV 1/2 Stat Pak** (Inverness Medical Professional Diagnostics) was FDA-approved in 2006
- **Clearview[®] Complete HIV 1/2** (Inverness Medical Professional Diagnostics) was FDA-approved in 2006

Rapid HIV Testing: The ED Experience #1

- Identity-unlinked sera from 492 consecutive ED patients
- Two rapid tests compared with standard testing
- Seroprevalence was 5.1%
- Easy, fast, with high sensitivities and specificities
- High concordance with standard testing

Kelen G et al. Evaluation of two rapid screening assays for the detection of human immunodeficiency virus-1 infection in emergency department patients. *Am J Emerg Med* 1991;9:416-420.

Rapid HIV Testing: The ED Experience #2

- Three-phase study over 3 years
- Phase I: Standard testing in the ED with follow-up 10-14 days later
- Phase II: Standard testing versus rapid testing
- Phase III: Rapid testing

Kelen G et al. Emergency department-based HIV screening and counseling: Experience with rapid and standard serologic testing. *Ann Emerg Med* 1999;33:147-155.

Rapid HIV Testing: The ED Experience

- 3048 total patients studied
- 1448 (48%) consented to be tested over the 3 periods
- Overall seroprevalence rate was 5.4%
- A large proportion of those who received standard testing did not return to receive their test results
- A larger proportion received their test results when rapid testing was used
- Costs were comparable

Kelen G et al. Emergency department-based HIV screening and counseling: Experience with rapid and standard serologic testing. *Ann Emerg Med* 1999;33:147-155.

Rapid HIV Testing: The ED Experience #3

- Urban, county ED
- Non-clinical health educators
- 7072 patients approached for testing over 9 months
- 1652 (29%) consented to rapid testing
- 1640 (99.3%) received their results prior to discharge
- 46 (2.8%) tested positive
- 36 (80%) followed-up in the retroviral clinic as scheduled

Kendrick SR et al. Comparison of point-of-care rapid HIV testing in three clinical venues. *AIDS* 2004;18:2208-2210.

Rapid HIV Testing: The ED Experience #4

- Urban, county, safety-net hospital
- Physician-based, patient-targeted diagnostic testing using indigenous staff
- Laboratory-based rapid testing
- Dedicated clinical social workers provided counseling
- 681 targeted and completed HIV testing
- 15 (2.2%) tested positive for HIV infection
- 12 successfully linked into follow-up care

Haukoos JS et al. Development and implementation of a model to improve identification of patient infected with HIV using diagnostic rapid testing in the emergency department. Acad Emerg Med (In Press).

Rapid testing in ED works!

- Rapid testing in the ED is feasible and provides patients with timely results
- Several strategies exist
- Entry into HIV care may be facilitated when HIV results are all provided during one visit
- All EDs need to consider offering some level of HIV testing

Wishard Health Services

Rapid HIV Screening Protocol



Wishard Emergency Department

- Level 1 trauma center (Adult and Pediatrics)
- Annual census 115K patients
- 79-90 beds in ED
- 30 full/ part-time physicians
- Nurse: Patient = 1:6 (sometimes more)
- CDC eligible for HIV screening
 - 2007: 55,000

Wishard HIV protocol- History

- Began October 2007
- Collaborative Task Force established
- Did not re-invent the wheel.
- Early protocol design
- Collaborative bridges came quickly!
- Pilot designed
- Funding sources
- Future outlook

To name a few...

Lee Wilbur, MD- **Chair task force**

Leslie Weaver, LCSW- **Social Worker/
Center of Hope**

Gretchen Huffman, BS, RN- **HIV
project coordinator**

Mitch Goldman, MD- **Wishard ID**

Danielle Osterholzer, MD- **Wishard ID**

John Finnell, MD- **Informatics**

Reagann McCreary, DO- **EM resident**

Elizabeth Vance, RN- **Coordinator ED
operations**

John Baenziger, MD- **Director
Wishard lab**

Debbie Burns- **Director POC testing**

Tracy Martin, BSN- **Wishard ED
Director**

Christine Balt, NP- **Wishard ID
Clinic**

Sandy Jones, RN –**Wishard ID
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Mike Wallace- **Director Ryan
White funds**

Virgina Caine, MD- **Director
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Cathy Archey-Morgan- **ISDH**

Jerry Burkham- **ISDH**

Malinda Boehler, LCSW-
MATEC

Suellyn Sorrenson, PharmD-
MATEC

Kathy Hendershot, BSN-
Methodist ED Director

Scott Hillard, RN- **Methodist
ED**

Protocol Design- Specific Aims

- Patient-centered public health initiative
- Involve HIV/ AIDS community organizations
- Don't compromise ED operations
 - Do not utilize ED nurses primarily
 - Do not rely on ED physicians
- Use dedicated (external) testing personnel
- Design pilot to be full-scale model
- Establish process to evaluate effectiveness

Agency counselors - Pilot

- Why
 - Trained to be effective communicators
 - Testing in ED is community-outreach
 - Benefits the agency to document number of tests performed
 - Salary paid by agency- excellent resource.
 - Collaborative bridges in HIV community
 - We are seeing the same patients = clients
 - A 'Win- Win' situation

Operational Protocol

Pilot

- Two testers per 8 hour shift
- One stationed in front triage area
- Second stationed in Department- mobile

Current

- Americorp collaboration
- Volunteer services

Operational Protocol- Design

- Patient entry into ED (from front triage)
 - Triaged by RN/ Registered
 - Eligible pts then seen on Tester's screen
 - Tester calls patient back into 'HIV office'
 - Pre-test counseling
 - Informed consent
 - Ora-quick performed or declined
 - Patient released back to waiting room or assigned room

Operational Protocol- Design

- Tester #2 (during pilot)
 - Responsible for all patients arriving by ambulance
 - After triage, eligible patients seen on tester #2 screen
 - Tester (mobile cart) locates patient in ED
 - Pre-test counseling
 - Informed consent
 - Ora-quick performed or declined
 - Test results provided once known

Operational Protocol- Design

- Tester #2
 - Responsible for providing ALL positive test results along with post-test counseling
 - Tester #1 will call tester #2 with ALL positive test results.
 - Order confirmatory western-blot (inform RN)
 - Schedule (+) patients for urgent follow-up

Operational Protocol- Design

- Follow-up:
 - Patient ‘follow-up log’ located in ED
 - Patients scheduled 24/7 for the ‘HIV Follow-Up Clinic’
 - Clinic staffed by Leslie Weaver, MSW, LCW
 - 2 days/ week
 - Paper and electronic record of appts
 - Provide western-blot results
 - Integrate into Infectious Disease clinic

Follow-up clinic

- Consistent with mission of project
- Intent is not to duplicate CBO services
- Additional post-test counseling, emotional support, and referral
- Patient-centered, individual needs assessment
 - Menu of options
 - Medical and
 - Psychosocial needs

Operational Protocol- Design

For 'No shows'

1. Social worker will call at home if appropriate
2. If unable to be reached, DIS system notified
3. ID clinic notified of all (+) Ora-quick pts

Wishard success

- To date:
 - Goal for positive screens: 0.25%
 - Over 1600 patients tested
 - > 1000 during pilot (4 wk)
 - 5 confirmed positive
 - Consent rate 79% - 89%
 - ‘Ripple effect’ through department and community

The sky is the limit...

- Wishard protocol can be readily expanded
- Over 55K eligible patients annually
- HUGE community impact with additional resources
- Expansion opportunities in city and State
- Early Intervention Services
 - Re-integrate KNOWN HIV pts back into care
- Partnership with local CBO's

Bottom line

- Many of your clients seek care in your community ED's
- ED's should perform HIV screening
- Rapid HIV testing already proven successful
- What can we all do to advocate for these services?

A 'How To' Guide

Assess HIV in your community

- Evaluate your population
 - Epidemiologic information
 - Prevalence and incidence
 - Locations of high incidence
 - Demographic studies
- Consider cultural norms
 - Attitudes
 - Perception of problem

Assess HIV in your community

- Examine trends
 - Emerging communities
 - Utilization/access to health care
- Familiarize self with current HIV/AIDS resources
 - Present HIV testing methodologies
 - Past successes and failures

Know the movers & the shakers

- Identify community gatekeepers
 - Local health department
 - State health department
 - Local Infectious disease providers
 - Local hospital administration
 - Leaders of HIV/AIDS organizations
 - Advocacy groups
- Be visible
- Build relationships

Understand the initiative to make the case

- Be familiar with CDC Recommendations
 - Routine screening in all healthcare settings with undiagnosed prevalence $\geq 0.1\%$ for patients aged 13 to 64 years

Understand the initiative to make the case

- Public health benefits
 - Identify the 25% of HIV positive individuals who do not know their status
 - Individuals who are unaware of their status are 3x more likely to transmit the virus
 - Identification and diagnosis can decrease numbers of transmission based on changes in risk behavior

Understand the initiative to make the case

- Individual health benefits
 - Opportunity to get tested for those that wouldn't seek a testing and counseling center
 - Testing for those who don't perceive personal risk
 - Opportunity to educate
 - Early diagnosis
 - Early linkage to care and services
 - Routine monitoring
 - Social services

Tools for success

- Anticipate barriers
 - Varying opinions of need for initiative
 - Resources already exist
 - Not our responsibility
 - Treat not prevent
 - Resources
 - Staff
 - Space

Tools for success

Anticipate barriers (cont.)

- Funding
 - Who will pay for this?
 - Cost to health care settings
- Other financial considerations (know your audience)
 - Cost effectiveness (traditional vs. rapid test, cost to system)
 - Potential impact on funding (county, state, agency)

Tools for success

Most importantly:
Be prepared to offer
potential solutions

Advocate

- Do what you do best
 - Enhance your knowledge and understanding
 - Listen
 - Be objective
 - Practice good ethics & respect for others
 - Ask for help when you need it
 - Be persistent, patient, and assertive
 - Be clear and ask for what you want

Next steps

- Create task force early
 - Be diverse, incorporate representatives from all major players
- Designate roles
 - Base role on professional affiliations
 - Prevent duplication of efforts
- Delegate assignments
 - Clearly define tasks
 - Clearly provide deadline

Next steps

- Prepare written protocol
 - Incorporate feedback from task force members
- Keep the ball rolling
 - Advocate for continued participation
 - Routinely update key players on progress
- Have a deadline in sight

Towards the future

- Routinely assess quality of services
- Continually evaluate initiative impact
 - Feedback from patients
 - Staff (primary and secondary)
 - Funders
 - CBO's
- Periodically evaluate relevance of project

Funding acknowledgement

- Indiana State Department of Health
- Marion County Health Department
- Ryan White Fund Part A
- MATEC

- ...Many thanks!

Summary

- The ED is the perfect venue for HIV screening
- Barriers can be overcome
- Can't do it alone
- Proven models exist...use them
- Be prepared for limited resources and adapt